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OF

SURGICAL ANATOMY;

WITH

EXPLANATORY REFERENCES,

FOUNDED ON THE WORK OF M. BLANDIN.

BY JOHN G. M. BURT,

EXTRAORDINARY MEMBER OF THE ROYAL MEDICAL SOCIETY EDINBURGH, ETC.

SECOND EDITION.

ENGRAVED BY J. & J. JOHNSTONE.

GLASGOW:

BLACKIE & SON, 8, EAST CLYDE STREET;

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BY

JOHN G. M. BURT,

Surgeon to the City Dispensary,

Extraordinary Member of the Royal Medical Society, &c.

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Engraved, under the direction of the Editor,
by Messrs. James & John Johnstone.

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THIS WORK IS DEDICATED,

AS A TRIBUTE OF HIGH RESPECT FOR HIS EMINENT TALENTS, AS WELL AS OF SINCERE ESTEEM FOR THE UNIVERSALLY ACKNOWLEDGED WORTH AND EXCELLENCE OF HIS CHARACTER,

BY

HIS OBLIGED AND FAITHFUL SERVANT,

JOHN G. M. BURT.

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PREFACE.

Among the many useful and valuable works which have appeared in this country, illustrative of various branches of medical science, it appears rather extraordinary that one upon Surgical Anatomy should still be a desideratum. To supply this want has been the object of the Editor in publishing the following Illustrations, founded on the much and justly-admired work of M. Blandin.

In the progress of the undertaking, it occurred to the Editor that M. Blandin's arrangement might be materially improved, and some additional Plates added, to render the illustrations more complete ;—this he has done, and also accommodated the letter-press to the most approved nomenclature of our medical schools.

With these explanations he submits the work to the Medical Profession, trusting that it will prove acceptable ; and he begs to add, that, from the high character of Messrs J. & J. Johnstone, the engravers, he feels quite confident that the plates will be executed in the best style ; while, from the arrangements he has made with them, the expense will be such as to put it within the reach of all who may desire to obtain it.

Edinburgh, 1*st December* 1830.

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From Blandin.
J&J.Johnstone

PLATE FIRST.

VIEW OF THE SUPERFICIAL ANATOMY OF THE NECK.

A. A. A. Lateral portion of the head, from the occiput to the ear, and from thence to the chin.
B. B. B. Clavicle.
C. Portion of the great pectoral muscle.
D. Portion of the deltoid muscle.
E. Triangular space formed by the two preceding muscles with the clavicle, and filled with cellular substance, perforated for the transmission of the two following vessels:—
F. Acromial artery,
G. Cephalic vein.
H. H. Sterno-mastoid muscle.
I. Anterior margin of the trapezius.
J. J. Two digitations of the levator-anguli-scapulæ.
K. K. The integuments reflected backwards.
K'. The platysma myoides also reflected.
L. Omo-hyoid muscle.
M. Portion of the deep-seated layer of the cervical fascia, arising from the middle tendon of the preceding muscle, and prolonging itself to the clavicle, against which it binds down the supra-scapular vessels.
N. N. Anterior scalenus muscle.
O. O. Fibres of the posterior scalenus muscle.
P. Superior digitations of the serratus magnus.
Q. Subclavian artery, passing out between the scaleni muscles, and giving off, in the present case, as is not uncommon, a large artery, which crosses the brachial plexus, and represents the deep branch of the transverse cervical.
R. Portion of the first rib, over which we can with facility apply a ligature to the subclavian artery.
S. Branch already pointed out, which is given off by the subclavian artery.
T. Artery which arises from the subclavian, and represents the ordinary tract of the transverse cervical, of which we have in this instance the superficial branch only.
U. Supra-scapular artery, lying close to the clavicle.
V. Portion of the axillary vein in front of the anterior scalenus muscle.
X. External jugular vein, single, and of greater size below, dividing on the sterno-mastoid. This high division of the external jugular is common, but not constant.
Y. Termination of the anterior jugular vein, situated under the sterno-mastoid muscle, in front of the deep layer of the cervical fascia, and joining the external jugular.
Z. Common trunk of the transverse cervical and supra-scapular veins, lying close to the clavicle.
a. Brachial plexus on the outer side of the axillary artery.
b. Cord of communication of the cervical and brachial plexuses.
c. c. Phrenic nerve, crossing the direction of the anterior scalenus muscle.
d. Supra-scapular nerve.
e. Mastoidean nerve of the superficial cervical plexus.
f. f. Auricular nerve of the same plexus.
g. Three cervical nerves of the superficial cervical plexus, forming a curve on the posterior border of the sterno-mastoid muscle.
h. Branch from the superficial cervical plexus, entwining the jugular vein in the middle of the neck.
i. Deep cervical branch of the superficial cervical plexus, passing towards the trapezius.
j. j. j. Descending supra-clavicular filaments of the cervical plexus.
k. k. Descending supra-acromial filaments of the same plexus.
l. l. Mastoidean and fascial lymphatic vessels.
m. Lymphatic ganglion exterior to the sterno-mastoid muscle.
n. n. n. Supra-clavicular lymphatic ganglia.
o. Lymphatic vessels of the neck.
p. Lymphatic vessels which follow the anterior jugular vein, and which have their origin at the anterior part of the neck.
q. q. Superficial lymphatic vessels of the thorax, which terminate in the supra-clavicular ganglia.

PLATE SECOND.

VIEW OF THE DEEP-SEATED ANATOMY OF THE NECK.

A. Portion of the ear.
B. Portion of the cheek.
C. Chin drawn upwards.
D. Portion of the occiput.
E. Superior extremity of the sternum.
F. Right clavicular region elevated.
F'. Left clavicle directed horizontally.
G. Right side of the neck, on which we see in profile the relative situations of the different parts.
H. H. The integuments.
I. Subcutaneous cellular substance.
J. J. Layer formed above by the platysma myoides, and below by the superficial cervical fascia.
K. Place where the cervical fascia, in the upper part single, divides into two principal layers.
K'. Anterior and posterior layers of the cervical fascia.
L. Inferior extremity of the sterno-mastoid muscle, situated between the two layers of the cervical fascia.
L'. The anterior external jugular vein, slightly developed, and confined between the two layers of the cervical fascia.
L''. Ganglia and lymphatics situated between the layers of the cervical fascia.
M. Fatty cushion lying below the upper part of the platysma myoides.
N. Sterno-hyoid muscle.
O. Sterno-thyroid muscle.
P. Left side of the neck, where the different organs have been completely laid bare, and are seen nearly in front.
Q. Hyoid bone.
R. Inferior maxillary bone.
S. S. The skin reflected backwards.
S'. S'. The platysma myoides also reflected backwards.
T. Hook applied to the sterno-mastoid muscle, and drawn outwards, to display the parts naturally concealed.
U. Omo-hyoid muscle.
V. Sterno-hyoid and thyroid muscles cut across.
V'. Their inferior extremities.
X. Crico-thyroid muscle.
X'. Thyro-hyoid muscle.
Y. Anterior belly of the digastric muscle,
Y'. Posterior belly of the same muscle.
Y''. Pulley of the muscle.
Y'''. Fibrous lamina, which proceeds from the tendon of the muscle.
Z. Stylo-hyoid muscle.
Z'. Stylo-glossus muscle.
&. Portion of the inferior constrictor muscle of the pharynx.
a. Portion of the hyo-glossus muscle.
b. Mylo-hyoid muscle.
c. Portion of the masseter muscle.
d. Thyro-hyoid space.
e. Thyroid cartilage.
f. Crico-thyroid space, filled by an elastic membrane, exhibiting small vascular openings.
g. Cricoid cartilage.
h. h. Thyroid body.
i. Trachea.
j. Œsophagus inclining to the left.
k. Portion of the brachio cephalic trunk.
l. Left common carotid artery.
m. Inferior thyroid artery, passing transversely behind the common carotid, and in front of the commencement of the œsophagus.
n. Division of the common carotid.
o. External carotid artery.
o'. Internal carotid artery.
p. Superior thyroid artery.
p'. Crico-thyroid artery.
q. Fascial artery.
q'. Sub-mental branch of the fascial artery.
r. Lingual artery.
t. Internal jugular vein.
t'. Anterior jugular vein.
u. Fascial vein.
v. Temporal vein, leaving the parotid.
x. Lingual vein.
x'. Lateral thyroid vein.
y. y. Filaments from the cervico-fascial branch of the fascial nerve.
z. z. Mylo-hyoidean filament of the inferior dental and spinal nerves.
1. Hypo-glossal, or ninth pair of cerebral nerves.
2. Its descending branch.
3. Arch formed by the preceding nerve, and the descending internal branch of the cervical plexus.
4. Sterno-hyoidean filament of the hypo-glossal nerve.
5. 5. Pneumo-gastric nerve.
6. Superior laryngeal nerve of the left pneumo-gastric, dividing itself into two branches.
7. Cardiac branch of the pneumo-gastric nerve.
8. Inferior laryngeal or left recurrent nerve, placed in front of the œsophagus.
9. Cervical portion of the great sympathetic.
10. Termination of the superior cervical ganglion.
11. Middle cervical ganglion, placed on the inferior curvature of the thyroid artery.
12. Communicating filament of the great sympathetic with the cervical nerves.
13. Cardiac nerve, superficial at its origin.
14. Origin of the middle cardiac nerve.
15. 15. 15. Lymphatic ganglia.
16. Parotidean lymphatic vessels.
17. Mastoidean do.
18. Fascial do.
19. Sub-mental do.
20. Cervical do.

PLATE II.

From Blandin.

PLATE III.

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PLATE THIRD.

PERPENDICULAR SECTION OF THE HEAD AND NECK, TO SHOW THE RELATIVE SITUATIONS OF THE CAVITIES OF THE NOSE, MOUTH, LARYNX, AND PHARYNX.

A. Cut edge of the frontal bone.
B. B. B. Cut edge of the integuments.
C. C. Frontal sinuses.
D. Cut edge of the nasal bone.
E. E. E. E. Left surface of the septum narium, covered by the pituitary membrane.
F. Anterior portion of the falx cerebri.
G. Cut edge of the cribriform plate of the ethmoid bone.
H. Irregular surface of the right orbitar process of the frontal bone.
I. Anterior clinoid process.
J. Sella turcica.
K. Part of the left sphenoidal sinus, with the septum which divides it from that of the opposite side.
L. Cut edge of the posterior clinoid process.
M. Cut edge of the body of the sphenoid bone.
N. Cut edge of the basilar portion of the occipital bone.
O. Opening for the passage of the nerve of the fifth pair.
P. Meatus auditorius internus, for the passage of the auditory and fascial nerves.
Q. Foramen lacerum for the passage of the nerve of the eighth pair and lateral sinus.
R. Foramen condyloideum anterius, for the passage of the nerve of the ninth pair.
S. Round opening of the dura mater, at which the vertebral artery enters the cranium.
T. Edge of the tentorium.
U. Posterior portion of the falx cerebri.
V. Part from which the tentorium has been detached on the left side.
X. Lateral sinus divided.
Y. Cut edge of the occipital bone.
Z. Falx cerebelli.
a. a. a. a. Cut edges of the lining membrane of the spinal canal.
b. Cut edge of the ligament which connects the processus dentatus to the occiput.
c. Cut edge of the circular ligament which connects the processus dentatus to the atlas.
d. Cut edge of the processus dentatus.
e. e. e. e. e. e. Cut edges of the bodies of the second, third, fourth, fifth, sixth, and seventh vertebræ.
f. f. f. f. f. Intervertebral substance.
g.g.g.g.g.g.g. Openings for the passage of the first, second, third, fourth, fifth, sixth, and seventh cervical nerves.
h. Cut edge of the back of the atlas.
i. i. i. i. i. i. Cut edges of the spinous processes of the second, third, fourth, fifth, sixth, and seventh vertebræ.
j. j. j. Muscles of the back of the neck.
k. k. Cut edge of the pharynx.
l. Sacculus cœcus of the pharynx.
m. Membrane which sometimes divides the sacculus at this part.
n. Eminence caused by a piece of cartilage at the extremity of the eustachian tube.
o. Opening of the eustachian tube.
p. Cut edge of the palate bone.
q. Cut edge of the palatine process of the superior maxillary bone.
r. Part of the cavity for the reception of the fang of the first left incisor tooth of the upper jaw.
s. Cut edge of the palatine membrane.
t. Cut edge of the upper lip.
u. Palate.
v. Cut edge of the soft palate.
w. Uvula.
x. Folds of the membrane of the mouth.
y. Internal lining of the cheek.
z. Glosso-palatine arch.
&. Tonsil.
1. Pharyngo-palatine arch.
2. Cut edge of the tongue.
3. Genio-glossus muscle.
4. Frenum of the tongue.
5. Part of the cavity for the reception of the fang of the first left incisor tooth of the lower jaw.
6. Cut edge of the under lip.
7. Cut edge of the inferior maxillary bone.
8. Genio-hyoideus muscle.
9. Cut edge of the os-hyoides.
10. Ligament which connects the os-hyoides to the thyroid cartilage.
11. Frenum of the epiglottis.
12. Dorsum of the tongue.
13. Epiglottis.
14. Eminence caused by the posterior extremity of the corner of the os-hyoides.
15. Cut edge of the epiglottis.
16. Line denoting the situation of the ligament which connects the posterior extremity of the corner of the os-hyoides to the superior corner of the thyroid cartilage.
17. Situation of the superior corner of the thyroid cartilage.
18. Corniculum of the larynx.
19. Cut edge of the aretenoid cartilage.
20. Base of the aretenoid cartilage.
21. Ventricle of the larynx.
22. Cut edge of the thyroid cartilage, in front.
23. Vocal chord.
24. Cut edge of the broad posterior portion of the cricoid cartilage.
25. Cut edge of the ligament which connects the small anterior portion of the cricoid cartilage to the inferior part of the thyroid cartilage in front.
26. Cut edge of the small anterior portion of the cricoid cartilage.
27. 27. Cut edges of the cartilaginous rings of the trachea.
28. Internal surface of the trachea.
29. Cut edge of the membranous part of the trachea.
30. 30. Cut edges of the œsophagus.
31. Muscles in front of the neck.

PLATE FOURTH.

THE EYE.

THIS PLATE IS INTENDED TO ILLUSTRATE THOSE PARTS OF THE EYE MOST COMMONLY CONCERNED IN SURGICAL OPERATIONS.

FIGURE FIRST

Represents the Eye-ball; part of the Cornea, Sclerotica, and Iris, being removed.

A. A. The tunica conjunctiva.
B. The cornea.
C. The iris.
D. D. The sclerotica.
E. The crystalline lens.
F. The optic nerve.
G. One of the ciliary processes.
H. The zonula lucida, or space between the anterior extremities of the ciliary processes and margin of the crystalline lens.
I. I. The anterior termination of the retina.
K. The part of the hyaloid membrane, which forms the canal of Petit, to which the pigmentum nigrum of the choroid coat and ciliary processes adhere.

FIGURE SECOND

Represents one-half of the Coats of the Eye, from which the humours have been removed.

A. The cornea.
B. B. The sclerotica.
C. C. The anterior termination of the choroid coat, where the ciliary ligament commences.
D. The ciliary ligament and processes, to which the iris is attached.
E. The iris.
F. The optic nerve, which expands within the choroid coat forming the retina.

FIGURE THIRD

Represents the Eye-ball, from which the Cornea and anterior half of the Sclerotica have been removed, by which the anterior part of the Choroid Coat, the Ciliary Ligament, the Iris, and the Crystalline Lens, are seen anteriorly.

A. The sclerotica.
B. B. The choroid coat.
C. The ciliary ligament.
D. D. The iris, having one-half torn down.
E. E. The ciliary nerves.
F. The crystalline lens.
G. The anterior part of the vitreous humour which occupies the space between the ciliary processes and margin of the lens.

FIGURE FOURTH

Represents one-half of the right Orbit with its contents, divided perpendicularly.

A. A. A. A. The bony orbit.
B. B. The integuments, covering the anterior of the orbit.
C. D. The upper and lower eyelids. The two black points at their nasal extremities, represent the orifices of the lateral lacrymal canals, called the punctæ lacrymaliæ.
E. E. The eye-ball, showing its coats, and humours contained within them.
F. The optic nerve.
G. The levator palpebræ superioris, the tendon of which is inserted into the tarsal cartilage of the upper eyelid.
H. The levator oculi, the tendon of which is inserted into the sclerotica about the eighth of an inch from the margin of the cornea.
I. The depressor oculi.
K. The adductor oculi.
L. The conjunctiva lining the eyelids, and covering the anterior surface of the eye-ball, forming a pouch by its reflection.

FIGURE FIFTH

Represents the anterior half of the Coats of the Eye, seen from behind, the Humours being removed.

A. The sclerotica.
B. B. The choroid coat.
C. C. The ciliary processes.
D. The iris, having its circular aperture called the pupil.

FIGURE SIXTH

Represents the Vitreous and Crystalline Humours, as taken from the Coats of the Eye, represented in Figure Fifth.

A. A. The hyaloid membrane of the vitreous humour covered by a portion of the retina.
B. B. The part of the hyaloid membrane, which forms the canal of Petit, to which some of the pigment of the ciliary processes and choroid coat adheres.
C. C. The space between the ciliary processes and margin of the lens, occupied by the anterior part of the vitreous humour, upon the hyaloid membrane of which, the vessels, for the nourishment of the lens, proceed to the capsule.
D. The crystalline lens.

FIGURE SEVENTH

Represents an Anterior View of the Eyelids and Lacrymal Organs, upon the removal of the Integuments and Orbicularis Palpebrarum.

A. B. C. D. The situation of the margin of the bony orbit.
E. The inner angle of the eye.
F. The outer angle.
G. H. The punctæ lacrymaliæ, or orifices of the lateral lacrymal canals which lead to the lacrymal sac.
D. I. The lacrymal sac.
I. J. The nasal duct.
J. The lower orifice of the nasal duct, entering the lower and lateral part of the nose, at the fossa formed by the inferior spongy bone (K), and superior maxillary bone (J).
L. The orifices of the sebaceous ducts, leading from the meibomian glands, represented by a dotted line.
M. The cartilage of the upper eyelid.
N. The cartilage of the lower eyelid.
O. The lacrymal gland.

Fig. 1.

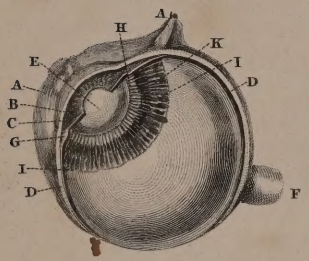
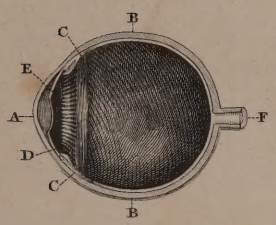


Fig. 2.



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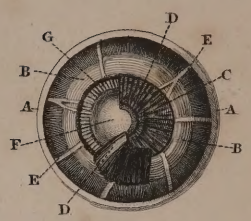

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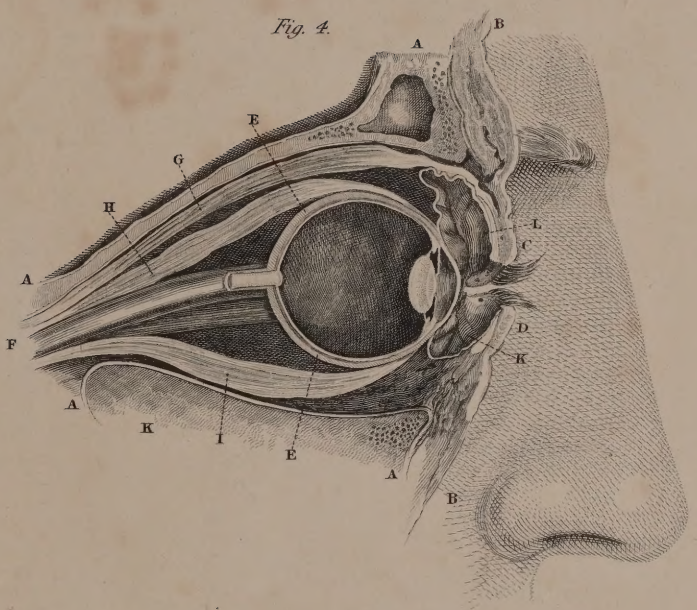

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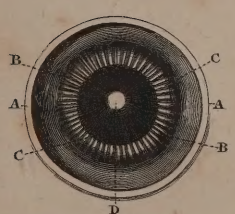

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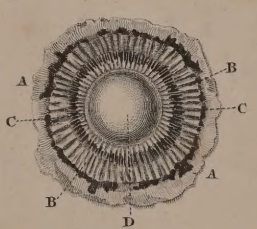

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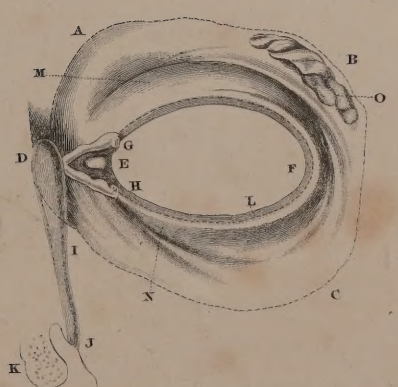

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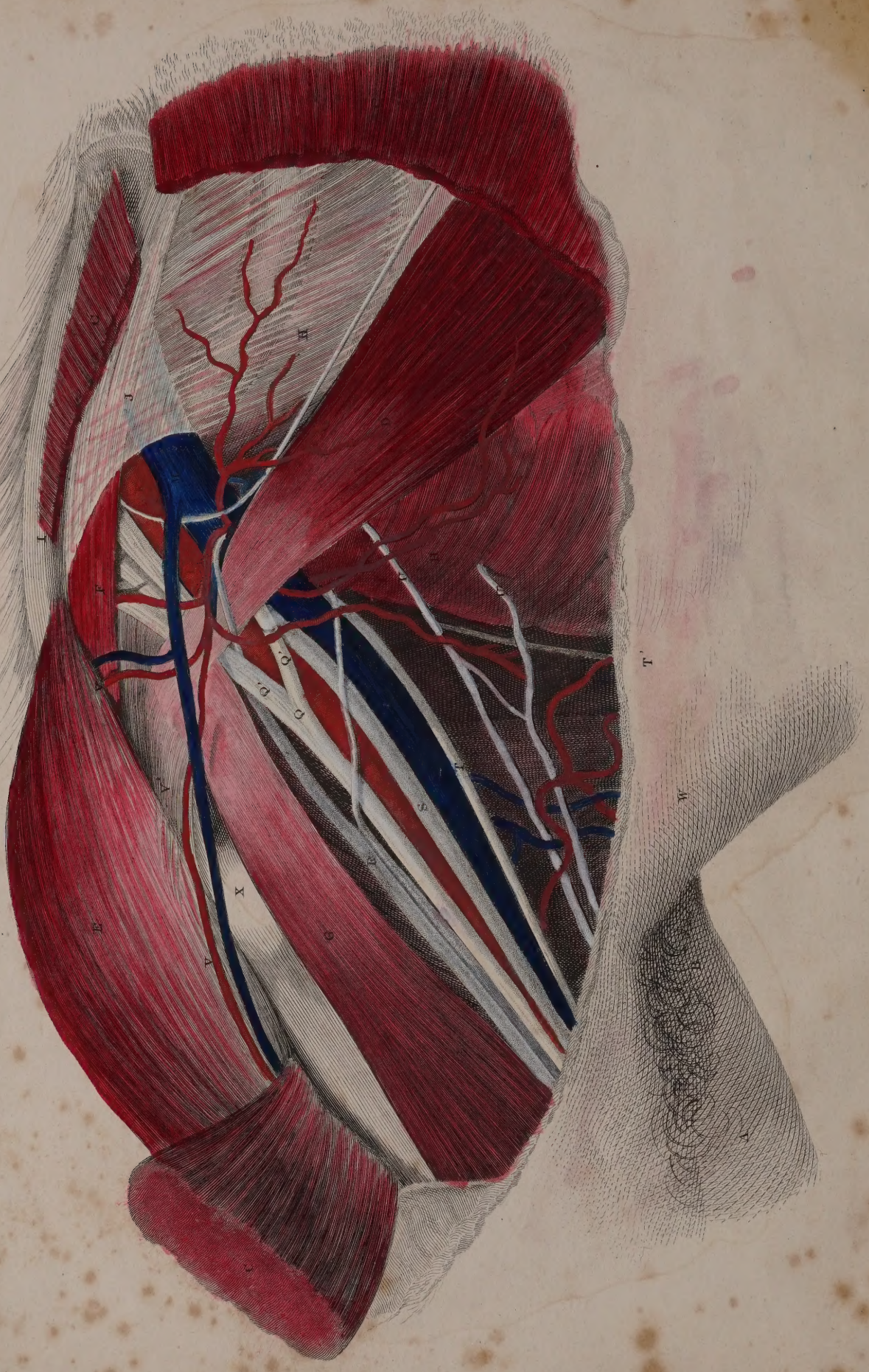
PLATE V.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Axillary Artery. 3 Portions.

1st Portion. Above Pect. Minor. Relations. It is contained in the Axillary Sheath of Membrane

Muscles. above. Clavic.r portn of Pect. maj. below intercost. m. of 1st Space & 1st digitat.n of Serr. maj.
Vessels. To thoracic Side is Axillary V. above & cross the Cephalic V. & offsets of Acromial Thoracic A. & V.
Nerves. On acromial side the 2 cords of Brach. plex. above Ant. Thor. n. Beneath Post. Thor. n.

2nd Portion. Beneath Pect. Minor covered by P. Minor & Major. no muscles behind

Vessels. Axill.r V. on inner side but 2ep.r by a bundle of nerve
Nerves. Cords of Brach. Plex. 1 on side 2nd inside & 2 beneath it.

3d Portion. Beyond the Pect. Minor. part concealed by Pect. Major. Lower down only covered & fascia Beneath are Subscapularis, tendons of Lat. Dorsi & Teres. Maj. outer side Coracobrach.

Vessels. V. as before
Nerves outer Median, & Ext. Cut. for short distance
inner Ulnar & Nerve of Wrisberg.
Superficial Int. Cutaneous
Behind Musculospiral & Circumflex

SALASAP

Branches of Axillary Artery

To the Thorax
- Abov. P. Minor. 2 Sup.r & acrom.l Thoracic
- Beneath - 2 Alar Thor.c
- Beyond. 4 Long thoracic

To the Shoulder. Subscapular & 2 Circumflex (Anterior)
External Mammary & Post. Circ.x

PLATE FIFTH.

FRONT VIEW OF THE AXILLA, THE ARM BEING SLIGHTLY ELEVATED.

A. Portion of the inner side of the arm.
B. Hair of the arm-pit.
C. C. Flaps of the great pectoral muscle, the origin reflected upon the chest, the insertion upon the deltoid muscle.
D. Lesser pectoral muscle.
E. Anterior portion of the deltoid muscle.
F. Sub-clavius muscle.
G. Coraco-brachialis muscle.
H. Lateral portion of the thorax.
I. Clavicle.
J. Coraco-clavicular aponeurosis, covering the subclavius muscle; the internal and superior portions only of this aponeurosis seen here, the rest having been raised to show the vessels and nerves.
K. Subclavian artery.
L. Portion of the subclavian artery, where the ligature should be applied.
M. Subclavian vein.
N. Axillary artery.
O. Axillary vein.
P. Cephalic vein.
Q. Median nerve, with its two roots,
Q'. Q'. Which embrace the artery.
R. Musculo-cutaneous nerve, following the course of the coraco-brachialis muscle, from the side of which a few fibres have been cut away to show the nerve.
S. The ulnar nerve, lying close upon the artery.
T. The internal cutaneous nerve, separated from the preceding by the axillary vein.
T'. Posterior thoracic nerve in the bottom of the cavity, and attached to the serratus magnus muscle.
U. U. Brachial branches of the intercostal nerves.
V. V. V. Acromial artery arising from the subclavian, behind the lesser pectoral muscle.
V. Coraco-acromian ligament slipping under the deltoid muscle.
W. Small arterial and veinous branches of the axilla.
X. Head of the humerus.

PLATE SIXTH.

THE AXILLA VIEWED FROM BELOW, THE ARM BEING STRONGLY ELEVATED.

A. Portion of the arm.
B. Portion of the costal region of the thorax, forming the internal boundary or wall of the axilla.
C. C. The ribs cut obliquely.
D. Aorta.
E. Vena cava inferior.
F. F. Two superior digitations of the serratus magnus.
G. Posterior thoracic, or external respiratory nerve of Charles Bell, passing over the serratus magnus.
H. Long thoracic artery passing like the preceding nerve upon the serratus magnus, but carried much farther forward, and encircled with lymphatic ganglions, which receive,
I. I. Lymphatic vessels passing out between the intercostal spaces,
J. J. Bundles of the lymphatic vessels of the mamma,
K. Bundles of lymphatic vessels, coming from the upper part of the anterior abdominal parietes.
L. Anterior boundary of the axilla, in which we find,
M. M. The skin and breast,
N. N. Subcutaneous tissue,
O. Portion of the cephalic vein,
P. Pectoralis major,
Q. Pectoralis minor,
R. Anterior thoracic vessels and nerve,
S. Vessels and nerve of the pectoralis minor.
T. Posterior wall of the axilla, on which the skin has been reflected from the base.
U. Hairy skin from the base of the axilla.
V. Subcutaneous cellular tissue.
X. X. Latissimus dorsi, held with a hook.
Y. Longissimus dorsi.
Z. Tendon of the long head of the triceps, near its insertion under the glenoid cavity.

a. Situation where the naked fibrous capsule of the shoulder joint is seen, very feeble.
b. Tendon of the subscapular muscle, passing on the inner side of the joint.
c. Lymphatic ganglion, which receives,
d. Lymphatics of the neck,
e. e. Lymphatics of the back,
f. f. Lymphatics of the superior part of the loins.
g. Circumflex vessels and nerves, passing between the triceps and humerus.
h. Anterior or common scapular vessels.
i. Transverse and dorsal branches of the anterior scapular vessels.
j. Axillary and descending branches of the common scapular vessels.
k. Great subscapular nerve which accompanies the descending branch of the common scapular artery.
k'. Posterior angle of the axilla.
l. l. Two brachial lymphatic ganglions.
m. Axillary vein, placed in front of the artery, and formed by the union of the following veins:—
n. n. Two brachial veins,
o. Basilic vein.
p. p. Axillary artery, placed between the vein and the plexus.
q. Place where the artery is embraced by the brachial plexus.
r. Brachial plexus, placed behind the artery.
s. Median nerve.
t. Ulnar nerve.
u. Internal cutaneous and radial nerves united.
v. Situation where the bundles of vessels and nerves occupy the anterior angle of this cavity.
x. Situation where the axillary vessels and nerves are placed in the external angle of the axilla.
y. y. Brachial filaments of the intercostal nerves.
z. z. Small ramifications of the intercostal arteries.

PLATE VI.

H. Jacob Del.t

from Blandin.

W. J. Johnston

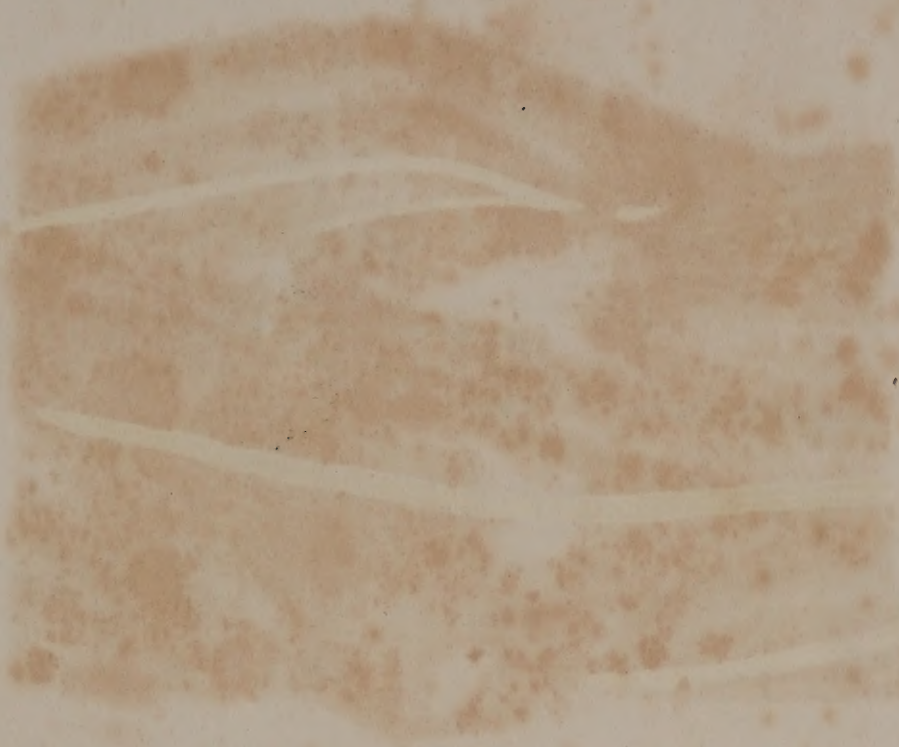

PLATE VII

Fig. 1.

Fig. 2.

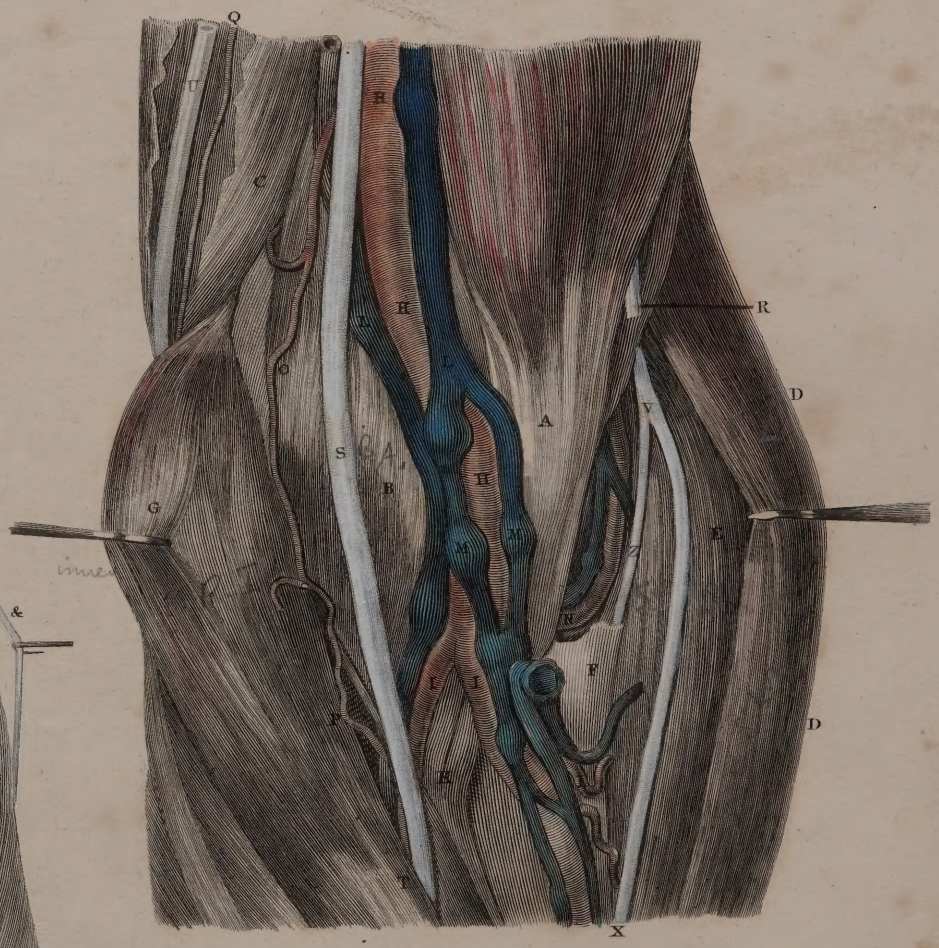

PLATE SEVENTH.

THE ANTERIOR ASPECT OF THE REGION OF THE ELBOW, IN WHICH THE VEINS HAVE BEEN STRONGLY INJECTED, TO SHOW, BY THEIR NODOSITIES, THE COMPARATIVE NUMBER OF VALVES IN THE SUPERFICIAL AND DEEP-SEATED VEINS.

FIGURE FIRST.

Superficial parts of the Bend of the Arm.

A. A. The termination of the brachial aponeurosis.
B. B. Commencement of the anti-brachial aponeurosis.
C. Fibres of the brachial aponeurosis, which have an inclination outwards towards the bundle of muscles on the outside of the elbow.
D. Oblique direction inwards of the greater part of the aponeurosis.
E. Place where the tendon of the biceps is partially covered by a thin fibrous aponeurosis.
F. The superficial radial vein, bound down in its small sheath.
G. Fibrous expansion, detached from the biceps, and becoming attached to the internal part of the fascia.
H. The inner condyle.
I. The superficial radial vein.
K. Cephalic vein.
L. The anterior superficial ulnar vein.
M. The posterior superficial ulnar vein.
N. Origin of the basilic vein.
O. The common median vein, very prominent, and enclosed in a small sheath.
P. Veinous branches which perforate the fascia, and which unite the deep-seated radial veins with the origin of the median cephalic and basilic.
Q. The median basilic vein.
R. The median cephalic vein.
S. S. Brachial veins, which we perceive by means of an aperture in the fascia of the elbow, purposely made to display them.
T. T. T. Superficial anormal veins.
U. Internal cutaneous nerve, dividing itself at the elbow into a considerable number of branches, entwining the median basilic, and basilic veins.
V. The filaments of a cutaneous nerve, given off very high up by the ulnar nerve, sometimes even by the brachial plexus.
X. The external cutaneous, or musculo-cutaneous nerve, issuing from its deep position outside of the biceps, passing under the median cephalic vein, and slipping, without dividing itself, into the sheath of the median vein.
Y. The brachial artery, seen between the two veins.
Z. Small branch of the brachial, of which one branch remains subfascial, whilst the other becomes subcutaneous, a branch which appears to be the rudiment of the variety in which the ulnar artery passes superficially in this region.
&. Cutaneous branch of the radial nerve.

FIGURE SECOND.

Deep-seated Parts of the Bend of the Arm.

A. Tendon of the biceps.
B. Flattened tendon of the brachialis internus.
C. Internal border of the triceps muscle.
D. D. Supinator longus muscle.
E. External radial muscles.
F. Small supinator muscle, presenting an aperture perforated by the dorsal branch of the radial nerve.
G. Round pronator muscle, and bundle of muscles on the inner side of the elbow.
H. H. H. Brachial artery, situated on the outer side of the median nerve, and entwined by its veins.
I. I. I. Origins of the radial and ulnar arteries.
K. K. Deep-seated radial and ulnar veins.
L. L. Brachial veins.
M. M. Radial veins, surrounding a portion where we see the brachial artery.
N. Origin of the anterior recurrent of the epicondyle, which passes at this point under the tendon of the biceps. It is not in this case the normal disposition.
O. P. Anterior arterial arch of the inner condyle, formed by the two following branches,
O. Internal collateral artery of the arm,
P. Anterior recurrent ulnar artery.
Q. Artery with the ulnar nerve passing behind the inner condyle.
R. Divided trunk of the musculo-cutaneous nerve.
S. Median nerve, drawn a little to the inner side.
T. Place where the median nerve passes between the two bundles of the round pronator muscles.
U. Ulnar nerve.
V. Radial nerve, dividing into two branches, viz.
X. Anterior branch,
Z. Posterior branch, disappearing under the short supinator muscle.

PLATE EIGHTH.

THE FINGERS.

FIGURE FIRST.

ANTERIOR ASPECT OF THE FINGERS.

No. 1.—*Exterior Surface of the Finger.*

A. Line of the last phalangien articulation.
B. Line of the first phalangien articulation.
C. Line of the metacarpo-phalangien articulation.

No. 2.—*Skeleton of the Finger.*

D. E. Lateral articular ligaments.
F. Anterior ligament, developed by a sesamoid bone.

No. 3.—*Sheath of the Flexor Tendons laid open, to show the Tendons.*

G. Tendon of the flexor digitorum sublimis.
H. Tendon of the flexor digitorum profundus.
I. Situation where the flexor tendon becomes flat, afterwards separating into two bundles, the tendon of the flexor profundus passing between them.
K. Cut border of the sheath.
L. The artery and nerve in their natural positions—the nerve lying on the inner side.

No. 4.—*View, with the Sheath entire.*

M. Anterior aspect of the sheath.
N. N. Origin and termination of the sheath.
O. O. Situations where the fibrous membrane of the sheath forms crucial bands.
P. P. Rounded openings in the sheath for the transmission of blood-vessels, and situated over the metacarpo-phalangien articulation.
Q. Situations where the sheath is wanting, showing the naked tendon of the flexor profundus.
R. Trunks of the arteries.
S. Artery and nerve;—the nerve is seen outside the artery, in consequence of the reflection of the integuments.
T. Arch formed by the artery on the last phalanx, and the non-formation of the arch by the corresponding nerve.

No. 5.—*Veins of the Finger.*

U. Veinous branch, by which the anterior plexus of veins of the finger communicates with those of the palm of the hand.
X. X. X. Veinous branches situated over the lines of articulation, and communicating laterally with the digital plexus.

FIGURE SECOND.

POSTERIOR ASPECT OF THE FINGERS.

No. 1.—*Exterior Surface of the Finger.*

A. B. C. Line of the phalangien and metacarpo-phalangien articulations.

No. 2.—*Skeleton of the Finger.*

D. E. Digital articulations deprived of their posterior ligaments, and showing one of their lateral ligaments.

No. 3.—*Fibrous Membrane of the Extensor Tendons of the Fingers.*

F. Extensor tendon, narrow at the metacarpo-phalangien articulation.
G. Situation where the extensor tendon divides into three bundles, viz.—
H. Middle phalangien bundle,
I. I. I. Lateral phalangettien bundles, which afterwards reunite.
K. K. Tendons of the lumbricales and interossei muscles.

No. 4.—*Vessels and Nerves.*

L. L. L. Arterial branches, directed obliquely backwards over the lines of the digital articulations.
M. Arterial arch at the root of the nail, into which it sends many ramifications.
O. P. Corresponding nerves, among which, for this finger especially, are O. from the radial, and P. from the dorsal branch of the ulnar nerve.
Q. Q. Q. Veinous trunks coming from the fingers, and forming the veinous arch of the back of the hand.
R. Tendinous expansion, which unites the two extensor tendons.

No. 5.—*Plexus of Veins.*

X. X. X. Veins communicating laterally between the anterior and posterior veins.

FIGURE THIRD.

PERPENDICULAR AND LONGITUDINAL SECTION OF THE LAST PHALANX, TO SHOW THE FORMATION OF THE NAIL.

a. Section of the bone.
b. Anterior ligament of the last phalangien articulation, in which will be observed a sesamoid bone.
c. Termination of the phalangettien extensor tendon.
d. Termination of the phalangettien flexor tendon.
e. e. The skin on the anterior and posterior surfaces of the finger.
f. Sinus, formed by the skin, in reflecting itself upon the nail.
g. Point where the reflection of the skin commences on the back of the nail.
h. The nail.
l. Cellular tissue of the pulp of the finger.
k. Tendinous fibres, which connect the skin at the extremity of the finger with the anterior surface of the bone.

FIGURE FOURTH.

EXTERIOR AND SIDE VIEW OF THE FINGER, WHICH IS BENT AT THE DIFFERENT ARTICULATIONS, TO SHOW, IN THAT POSITION, THE LINES OF THE ARTICULATIONS A. B. C.

N.H.Jacob Del.t from Blandin. J.& J.Johnstone Sc.

PLATE IX.

N.H. Jacob. Delt.

from Blandin.

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PLATE NINTH.

INGUINAL AND CRURAL CANALS, SEEN EXTERIORLY.

A. Portion of the thigh.
B. Penis.
C. Scrotum.
D. Hair of the pubis.
E. E. Portion of the anterior parietes of the abdomen.
F. Anterior and superior spinous process of the ilium.
G. Rectus muscle in its sheath.
H. Pyramidal muscle, also in its sheath.
I. Aponeurosis of the external oblique.
J. Hook raising a portion of the fascia of the external oblique, detached above from the crural arch in the situation where it forms the anterior wall of the inguinal canal.
K. K. Crural arch.
L. Inguinal ring traversed by the spermatic cord, and giving off from its margin a fibrous expansion to the cord.
M. Fibrous expansion detached from the margin of the inguinal ring.
N. Internal or superior pillar of the ring.
O. External or inferior pillar of the ring.
P. Situation where the crural arch connects itself with the whole thickness of the fascia lata.
Q. Situation where the crural arch adheres only to the superficial fibres of the aponeurosis of the fascia lata, fibres which are here detached and turned outwards.
R. Passage opened above, which forms the crural arch, and which, in continuing itself backwards and upwards with the fascia transversalis, forms the passage which constitutes the inguinal canal.
S. S. Fascia transversalis, which forms the posterior wall of the inguinal canal in a situation where, of the three muscles of the abdomen, we find only the external oblique.
T. Situation where the fascia transversalis arises from the external border of the rectus.
U. U. Inferior conjoined and horizontal edges of the internal oblique and transversalis muscles.
V. V. V. V. V. Loops of the cremaster muscle, formed by prolongations on the cord from the inferior border of the internal oblique and transversalis muscles.
X. Spermatic cord.
Y. Ilio-scrotal nerve of the lumbar plexus.
Z. Z. Z. Skin and adipose tissue of the parietes of the abdomen reflected downwards.
&. &. Aponeurosis of the fascia superficialis.
a. Cord knitted to the aponeurosis of the fascia superficialis, detached from the parietes of the abdomen, and reflected upon the thigh and hip.
b. b. b. Vessels of the integuments of the abdomen.
c. External superficial vessels of the genitals.
d. d. Anterior parietes of the crural canal, incised and reflected from within outwards to shew the canal.
e. Large lymphatic ganglion situated over the crural canal.
f. Openings of the anterior parietes of the crural canal, which are traversed by the lymphatic vessels.
g. External parietes of the crural canal formed by the deep fibres of the fascia lata, supported upon the psoas and iliacus internus muscles.
h. Opening made at the external part of the crural canal, to shew the crural nerve, situated immediately behind it in the sheath of the psoas muscles.
i. Femoral artery lying on the outer side of the femoral vein.
j. Femoral vein.
k. Lymphatic ganglion in the internal part of the superior opening of the crural canal.
l. Internal saphena vein.
m. Inferior opening of the crural canal, crossed by the internal saphena vein.
n. Falciform bundle of fibres, situated at the junction of the saphena and femoral veins.

PLATE TENTH.

POSTERIOR VIEW OF THE ANTERIOR ABDOMINAL PARIETES, TO SHOW THE SUPERIOR ORIFICES OF THE INGUINAL AND CRURAL CANALS; AND ALSO A PERPENDICULAR AND TRANSVERSE SECTION OF THE PELVIS, TO SHOW THE INTERNAL ILIAC REGION AND THE CONNEXION OF THE PERINEAL APONEUROSIS WITH THE APONEUROSES OF THE CAVITY OF THE PELVIS.

A. A. Section of the upper part of the femur.
B. B. B. B. Perpendicular section of the iliac bones, from the anterior and superior spine of the ilium to the tuberosities of the ischium.
C. C. Anterior superior spines of the ilium.
D. D. Tuberosities of the ischia.
E. E. Inferior portion of the anterior abdominal parietes, formed by
F. F. The skin,
G. G. Subcutaneous cellular tissue,
H. H. Fascia superficialis,
I. I. Aponeurosis of the external oblique muscle,
J. J. Internal oblique muscle,
K. K. Transversalis muscle,
L. L. Transversalis fascia, very thin,
M. Right side of the abdominal parietes on which the peritoneum still remains.
N. Place where the peritoneum in the fœtus forces itself within the inguinal canal, and where, in the adult, it presents a wrinkled cicatrix.
O. Tract of the epigastric vessels.
O'. Tract of the vas deferens.
P. Projection of the umbilical artery.
Q. Inguinal fossa outside of the peritoneum.
R. Left side of the anterior abdominal parietes, on which, the peritoneum having been removed, we see distinctly the fascia transversalis.
S. Situation where the posterior part of the sheath of the rectus muscle is wanting.
S'. Place where the sheath of the rectus muscle is complete.
T. Place where the aponeurosis of the fascia transversalis accompanies the aponeurosis of the iliac fascia, behind the circumflex iliac artery, of which we see the tract.
U. Place where the aponeurosis of the fascia transversalis forms the posterior margin of the inguinal canal, and goes to unite itself to the outer side of the tendon of the rectus muscle.
V. Upper orifice of the inguinal canal formed by the transversalis fascia, in the middle of which this last aponeurosis becomes funnel-shaped in the inguinal canal.
V'. Bundle of fibres which form the lower and inner portion of the superior orifice of the inguinal canal.
X. Epigastric artery with its two veins placed within the superior orifice of the inguinal canal, first under the peritoneum, afterwards entering the sheath of the rectus muscle.
Y. The vas deferens, reflecting itself at an acute angle on the inferior part of the superior orifice of the inguinal canal, and on the epigastric vessels.
Y'. The spermatic artery with its two veins passing through the inguinal canal.
Z. Superior orifice of the crural canal, formed on the outer side by
a. The aponeurosis of the iliac fascia, and on the inner side by
b. Gimbernaut's ligament,
b'. Falciform edge of Gimbernaut's ligament,
b''. Portion of the ligament adhering to the crural arch,
b'''. Portion of the ligament adhering to the crest of the pubis,
c. Branch of the epigastric artery passing a little above Gimbernaut's ligament.
d. Posterior side of the superior orifice of the crural canal, formed by the ascending ramus of the pubis.
e. Anterior side of the superior orifice of the crural canal, formed by the crural arch, on the level of the inguinal canal.
f. f. External iliac artery situated opposite the external parietes of the superior orifice of the inguinal canal, and giving off the epigastric and circumflex iliac arteries.
g. g. External iliac vein giving off the two epigastric veins.
h. h. h. h. The external iliac and psoas muscles united.
i. i. Crural nerve.
j. j. Aponeurosis of the iliac fascia.
k. k. External iliac artery enclosed in a small sheath formed by the junction of the iliac and transversalis fasciæ.
l. Cellular tissue under the peritoneum of the right internal iliac fossa.
m. The bladder drawn to the right, and falling a little down from its wanting the support of the rectum.
m'. Hook applied to the bladder.
n. Plexus of the vesical veins.
o. Seminal vesicle of the left side joined to the vas deferens.
p. Ascending ramus of the pubis.
q. q. Internal obturator muscles.
r. r. The levator muscles of the anus.
s. Pelvic fascia.
s'. Obturator hole traversed by its vessels and nerves.
s''. Place where the pelvic fascia lies upon the internal obturator muscle.
s'''. Place where the pelvic fascia lies upon the levator muscle of the anus.
s''''. Place where the pelvic fascia, on its external aspect, gives off a fibrous expansion which descends between the two last muscles.
t. Place where the aponeurosis which covers the internal aspect of the internal obturator muscle divides into two layers, viz.
u. u. Fibrous layer, which covers the inferior aspect of the levator anus,
v. v. Fibrous layer, which descends on the internal aspect of the internal obturator muscle, to fix itself to the tuberosity of the ischium.
v'. v'. Pudic vessels and nerves enclosed in a small sheath formed by the preceding aponeurosis.
x. Anus and inferior part of the rectum, embraced by the superior and inferior aponeuroses and the levator muscle of the anus.
y. y. Fatty cushion placed between the anus and the tuberosity of the ischium in an aponeurotic angle, formed partly by the aponeurosis of the internal obturator muscle, and partly by that which covers the lower part of the levator muscle of the anus.

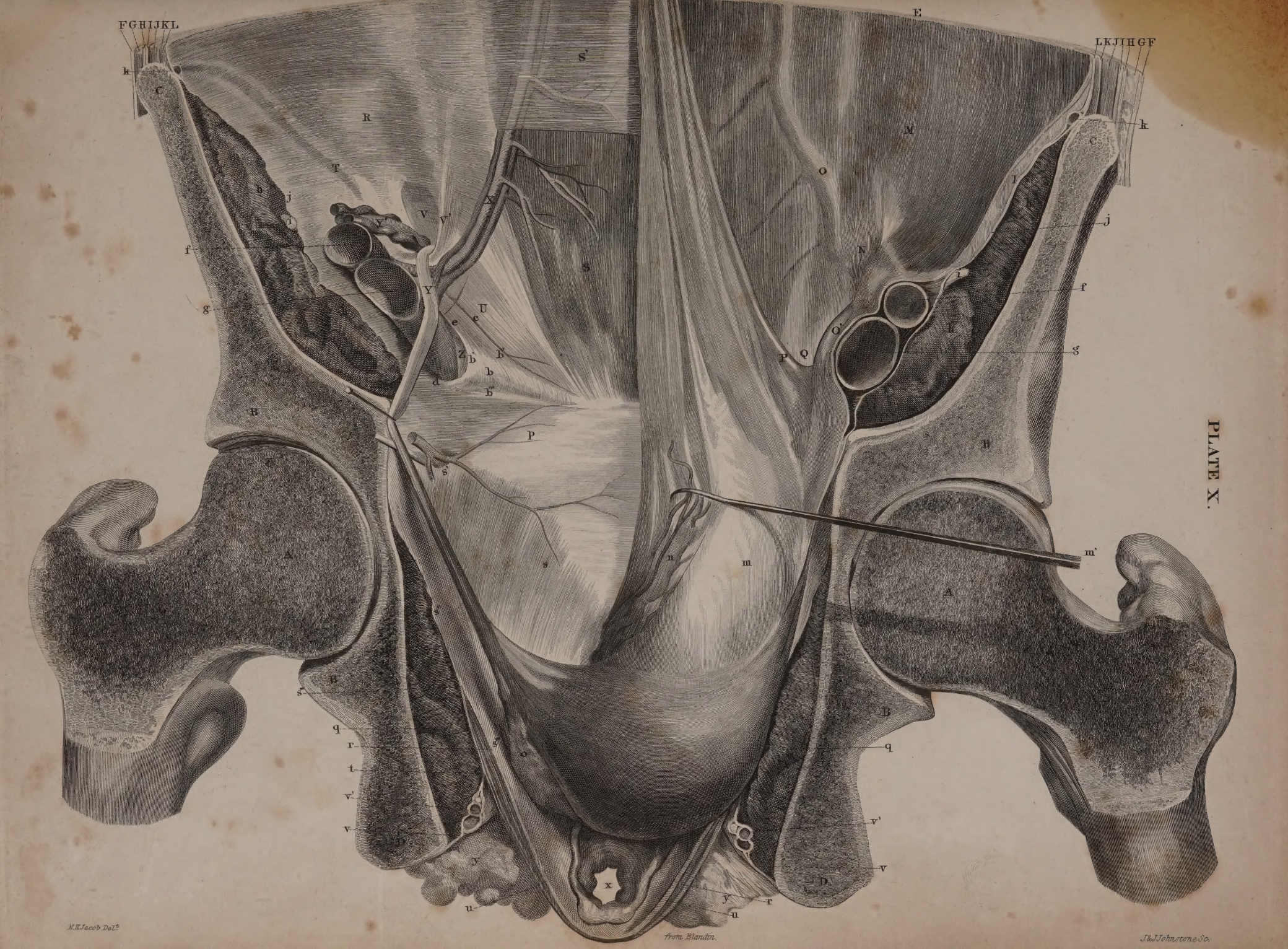
PLATE X.
FGHIJKL
LKJIHGF
E
S'
R
M
T
S
N
A
B
D
m'
from Blandin.
M.H.Jacob Del.
J.k.J.Johnstone Sc.

PLATE XI

PLATE ELEVENTH.

INTERIOR OF THE PERINEUM AND CAVITY OF THE PELVIS, TO SHOW THEIR APONEUROSES.

A. Section of the pubis, a little to the outer side of the symphysis.
B. B. Lateral section of the sacrum and last lumbar vertebræ.
C. Bundles of lumbar and sacral nerves enclosed in the spinal canal.
D. D. Section of the spine of the sacrum.
E. Last intervertebral ligament.
F. F. Fleshy mass of the sacro-spinal muscles.
G. Aponeurosis of the sacro-spinal muscles.
H. Aponeurosis of the great dorsal united to the posterior fibres of that of the transverse.
I. I. Subcutaneous tissue.
J. The skin.
K. Penis.
L. Scrotum.
M. Hair of the pubis.
N. Hook applied to the rectus muscle.
O. Epigastric artery.
P. P. Crest of the ilium.
Q. Iliac muscle.
R. Psoas magnus muscle.
S. Tendon of the psoas minimus muscle.
T. End of the aorta.
U. Left common iliac artery.
V. External iliac artery.
X. Internal iliac or hypogastric artery.
Y. Obturator artery.
Z. Glutæal artery.
&. Sciatic and internal pudic arteries.

a. Cord of the umbilical artery.
b. b. Vesical arteries.
c. End of the inferior vena cava.
d. Left common iliac vein.
e. External iliac vein.
f. Cut trunk of the internal iliac or hypogastric vein.
g. One of the branches of the obturator vein ending in the external iliac, at the middle of the crural arch, a distribution very common, if not constant.
h. The rectum thrown outwards.
i. The bladder also thrown outwards.
j. The left seminal vesicle.
k. The prostate visibly covered by a prolongation of the pelvic aponeurosis which forms its sheath.
l. Superior perineal aponeurosis.
m. Pubo-prostatic ligament formed by the superior perineal aponeurosis.
n. Notch for the passage of veins.
o. o. Arch of the levators of the anus, formed by the pelvic fascia, and giving rise to the lesser pelvic fascia.
p. Obturator hole.
q. Obturator nerve.
r. Sacro-sciatic notch, in which we observe the glutæal artery, and near to which we find the glutæal nerve.
s. Sciatic notch, traversed by the sciatic and internal pudic arteries.

PLATE TWELFTH.

FIGURE FIRST.

Crural Hernial Sac removed, to show the hole by which it descends in the Female.

A. Seat of the pubis.
B. Crural arch extending towards the ilium.
C. C. Abdominal muscles.
D. Crural arch.
E. Fascia lata.
F. Semilunar edge of the fascia lata.
G. Third insertion of the external oblique.
H. Crural artery.
I. Crural vein.
K. Crural sheath.
L. Abdominal ring.
M. The orifice by which the crural hernia descends, formed on the outer side by the crural sheath, on the inner by the semicircular insertion of the tendon of the external oblique, and above in part by the crural sheath and in part by the semilunar edge of the fascia lata. The division in the crural hernia is made at the upper and inner part.

FIGURE SECOND

Shows the Crural Sheath.

A. Pubis.
B. Ilium.
C. C. Abdominal muscles drawn up.
D. Transversalis muscle.
E. Its tendon.
F. Seat of the posterior edge of the crural arch.
G. G. Fascia transversalis.
H. Inner portion of the same fascia.
I. Fascia iliaca.
K. Crural sheath.
L. Crural artery.
M. Crural vein.
N. Saphena major vein.
O. Anterior crural nerve.
P. Fascia lata turned back.
Q. Tendon of the external oblique muscle drawn down.

FIGURE THIRD.

Dissection of a Case of Inguinal Hernia, to show the Coverings of the Sac and relative situations of the Vessels.

A. A. Inguinal ring of the left side.
B. B. Tendinous bands, which cross the direction of the fibres of the aponeurosis of the external oblique near the inguinal ring.
C. C. C. Aponeurosis of the external oblique muscle of the abdomen, cut from the crest of the ilium, from the linea alba, and from the vicinity of the inguinal ring.
D. Crural arch of the left side.
E. E. Aponeurotic and membranous sheath, formed by the cremaster muscle, laid open; the borders of the opening are held asunder by two hooks.
F. Continuation of the sheath formed by the cremaster muscle, in which are enclosed the spermatic cord and tunica vaginalis of the testicle.
G. G. Fleshy fibres of the cremaster muscle.
H. H. Cellular tissue, soft and pliant, which forms an intermediate cushion between the cremaster muscle and hernial sac.
I. I. Hernial sac formed by the peritoneum.
K. K. Portion of the omentum contained in the hernial sac.
L. L. Sheath of the rectus muscle of the left side opened and reflected.
M. Portion of the great peritoneal sac, the transparency of which permits us to distinguish the convolutions of the intestines.
N. The rectus muscle of the left side reflected on the right side of the abdomen.
O. The internal oblique muscle of the left side.
P. Portion of the great peritoneal sac appearing under the crural arch of the left side, after having separated the aponeurosis of the fascia lata, and elevated the Fallopian ligament.
Q. Skin of the scrotum.
R. Femoral artery.
S. Femoral vein.
T. Anterior iliac artery.
U. Origin of the epigastric artery.
V. V. Tract of the epigastric artery of the left side, along the rectus muscle, after having passed behind the hernial sac.
X. Origin of the epigastric vein.
Y. Y. Tract of the epigastric vein behind the neck of the hernial sac, and along the rectus muscle.
Z. Saphena vein.
a. Anterior crural nerve.
b. Curved dotted line, which indicates the direction followed by the viscera in passing through the canal, to form the external inguinal hernia, which is the more common.
c. Glutæus medius muscle.
d. Fascia lata.
e. Sartorius muscle.
f. Rectus muscle.
g. Vastus externus muscle.
h. Iliacus internus muscle.
i. Tendons of the adductor muscles of the thigh.
j. Gracilis muscle.

Fig. 1.

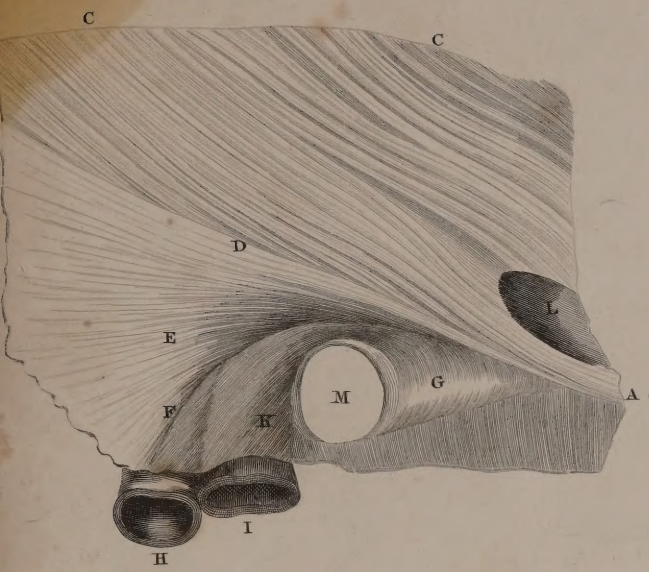

Fig. 2.

Fig. 3.

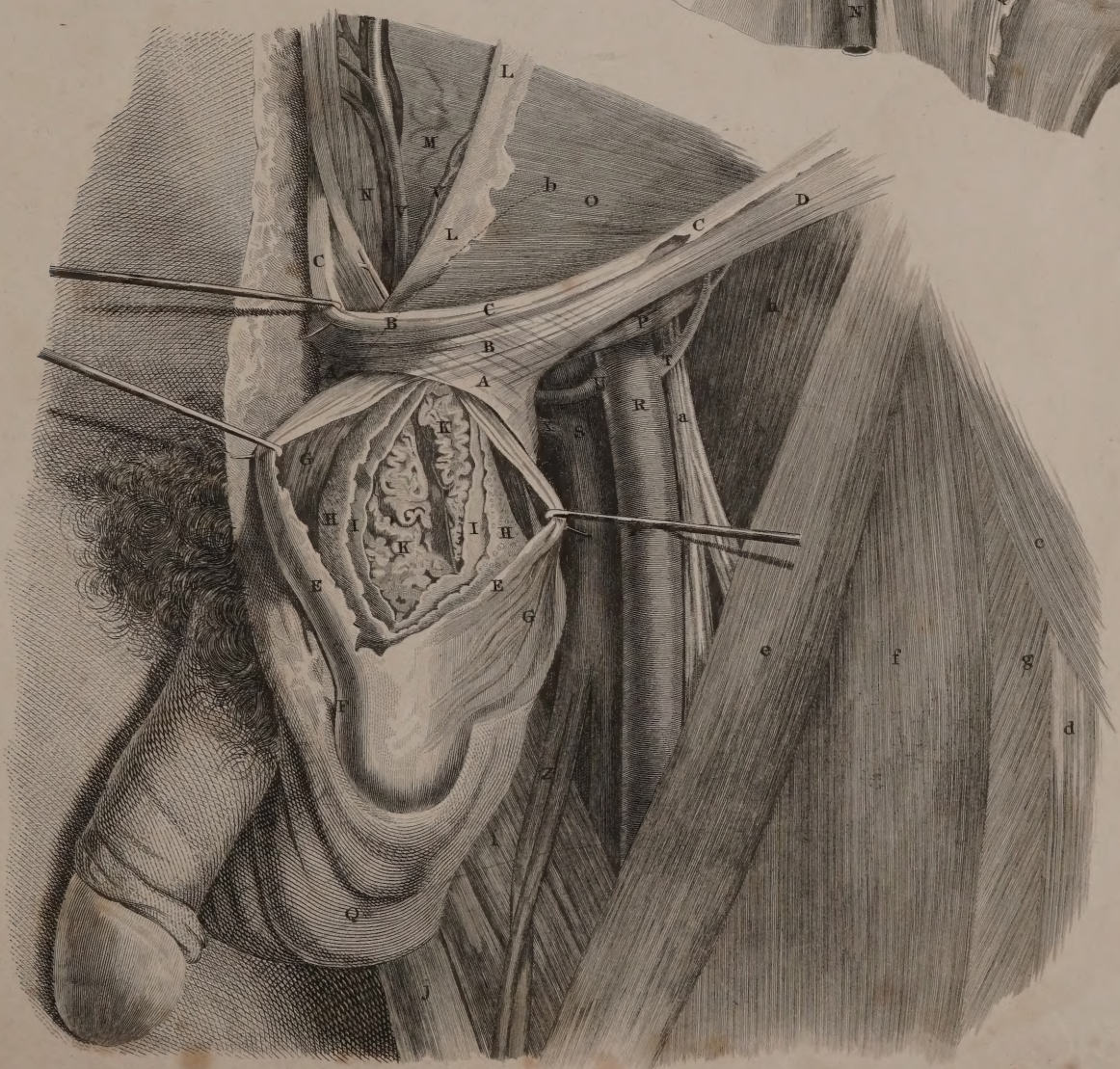

PLATE XIII.

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J & J. Johnston

PLATE THIRTEENTH.

VIEW OF THE PERINEUM IN THE MALE.

A. Penis.
B. B. Testicles and their envelopes.
C. C. Portion of the inner sides of the thighs, on which the aponeurosis is exposed.
D. D. Portion of the glutæus maximus muscle.
D'. D'. D'. D'. Section of the skin and subcutaneous cellular tissue.
E. Coccyx.
F. F. Portion of the skin of the buttock.
G. Hook applied to the glutæus maximus muscle of the right side, to show the subjacent parts.
H. H. Tuberosities of the ischia.
I. Portion of the right great sacro-sciatic ligament.
J. J. Rami of the pubis.
K. Symphysis of the pubis.
L. Inferior or superficial aponeurosis of the perineum, detached in front and on the sides, drawn down, twisted on its base, and thrown to the left.
L'. Place where the inferior perineal aponeurosis connects itself with the middle (R).
L''. L''. Lateral border of the inferior aponeurosis of the perineum, which was attached to the corresponding ramus of the arch of the pubis at the middle of the dotted line J.
L'''. L'''. L'''. Threads and hook applied on the anterior part of the inferior perineal aponeurosis.
M. Superficial artery and nerve of the perineum close to the inferior perineal aponeurosis, and displaced by the drawing out of the aponeurosis.
M'. Dotted line indicating the natural position of these vessels and nerves.
N. Cavernous body, with erector penis muscle.
N'. Cavernous body cut across, and penetrated in the centre by its vessels.
O. Spongy portion of the urethra.
P. Acceleratores urinæ muscles.
P'. Posterior insertion of the muscle on the superior aspect of the inferior perineal aponeurosis.
Q. Transverse muscle of the perineum proceeding obliquely in front to the bulb of the urethra.
R. Anterior portion of the middle perineal aponeurosis.
R'. Notch below the symphysis of the pubis, formed in part by the middle perineal aponeurosis, and giving passage to the vein, arteries, and nerve of the dorsum of the penis.
R''. Notch formed purposely in the middle perineal aponeurosis, to show, above it, the superior branch of the internal pudic artery, and the transverse artery of the perineum.
S. Artery of the cavernous body.
S'. Cavernous body.
T. Artery and nerve of the dorsum of the penis.
T'. Vein of the dorsum of the penis proceeding towards the notch R'. of the middle perineal aponeurosis.
U. Anus.
V. Sphincter of the anus.
V'. Coccygean extremity of the sphincter of the anus.
X. X. X. X. Inferior hemorrhoidal vessels and nerves.
Y. Y. Posterior portion of the middle perineal aponeurosis, which is here inferior; the inferior aponeurosis existing only in front.
Y'. Y'. Place where some fibres of the glutæus maximus take their origin from the preceding aponeurosis.
Z. Z. Pelvic aponeurosis, lying on the internal aspect of the internal obturator muscle.
Z'. Z'. Angular sinus, formed by the reunion above of the preceding aponeurosis of the internal obturator muscle, and of the posterior portion of the middle aponeurosis. The sinus is crossed by the inferior hemorrhoidal vessels and nerves X. X. X. X. and filled in the fresh state by a fatty cushion.

PLATE FOURTEENTH.

SECTION PARALLEL TO THE AXIS OF THE BODY; OF THE PERINEUM, OF THE PELVIC PORTION OF THE ANTERIOR ABDOMINAL PARIETES, AND OF THE POSTERIOR SACRAL REGION; MADE A LITTLE TO THE OUTER SIDE OF THE MESIAL LINE.

A. Symphysis of the pubis.
B. Penis, lying upon the belly.
C. Buttock.
D. Thigh.
E. Umbilicus.
F. Section of the inferior part of the spine.
G. Skin and subcutaneous tissue of the perineum.
G'. Cord attached in front to the skin of the perineum.
G''. Hook applied behind to the skin of the perineum.
H. Superficial or inferior perineal aponeurosis.
H'. Posterior border of the inferior perineal aponeurosis, continuous with the inferior aspect of the middle aponeurosis.
I. Place where the accelerator urinæ muscle inserts itself on the superior aspect of the inferior perineal aponeurosis.
J. Place where the sphincter muscle of the anus inserts itself on the inferior aspect of the inferior perineal aponeurosis.
J'. Sphincter muscle crossed by small hemorrhoidal veins.
K. K. Superficial vessels and nerves of the perineum.
L. Accelerator urinæ muscle.
M. Right testicle exposed.
N. Urethra.
O. Root of the cavernous body untouched.
O'. Root of the cavernous body divided.
P. Anterior portion of the middle perineal aponeurosis.
P'. Posterior portion of the middle perineal aponeurosis, inferior at this point.
Q. Inferior hemorrhoidal vessels and nerves.
R. Origin of the superficial vessels and nerves of the perineum.
S. Transverse artery of the perineum, cut at its origin and visible as far as the bulb, in consequence of a slit in the middle perineal aponeurosis, which is entire below.
T. T. Levator muscle of the anus.
U. Origin of the membranous portion of the urethra.
V. Prostate.
X. Triangular fleshy fibres, which arise from the pubis under the pubo-prostatic ligaments, embracing laterally the urethra and prostate, on the envelope of which the fibres terminate.
Y. Pubo-prostatic ligament.
Z. Bladder.
a. Anterior aspect of the bladder where the peritoneum is wanting, and which comes in contact with the pubis and with the abdominal parietes when the bladder is much distended.
b. b. Cut edge of the peritoneum, which covers the posterior, and a part of the superior and inferior aspects of the bladder.
c. The bottom of the recto-vesical depression of the peritoneum, about two inches and a half distant from the surface of the skin.
d. Urachus, arising from the summit of the bladder, and slipping under the peritoneum of the anterior abdominal parietes.
d'. Ligament of the right umbilical artery.
e. e. Branches of the prostatic plexus of veins formed by the vesical veins and those of the penis, which pass under the symphysis pubis.
e'. e'. Cut ends of two prostatic and vesical veinous branches, which terminate in the hypogastric vein.
f. Vesico-prostatic arterial branches.
g. Vesical artery.
h. Ureter crossed superiorly and on the inner side by the vas deferens.
i. Spermatic vesicle slightly raised.
k. Vas deferens below and on the inner side of the corresponding vesicle.
l. Rectum, of which we see principally the part deprived of peritoneum and the longitudinal muscular fibres scattered uniformly upon its surface.
l'. Inferior portion of the rectum, or anus.
m. Place where the rectum and prostate are united by condensed cellular substance.
n. Lesser hemorrhoidal vessels.
o. Superior hemorrhoidal vessels, branches of the inferior mesenteric vessels.
p. Hypogastric portion of the anterior abdominal parietes, which comprehends,
q. q. The skin,
r. Aponeurosis of the fascia superficialis,
s. Anterior portion of the sheath of the rectus muscle,
t. t. Rectus muscle,
t'. Tendon of the rectus muscle,
u. Pyramidalis muscle enclosed in a small sheath, formed by a redoubling of the anterior part of the sheath of the rectus muscle,
v. Aponeurotic fibres, sometimes wanting, which, when they exist, separate the rectus and pyramidalis muscles,
x. Posterior portion of the sheath of the rectus,
x'. Place where the posterior part of that sheath is wanting, the rectus muscle coming in contact with the peritoneum, or the bladder, according to circumstances,
y. Peritoneum lining the anterior abdominal parietes, and reflecting itself below upon the bladder,
z. Space where the bladder, deprived of peritoneum, comes in contact with the anterior abdominal parietes.
1. Posterior sacral region, which comprehends,
2. The skin,
3. 3. Subcutaneous cellular substance,
4. Aponeurosis, formed by the union of the great dorsal aponeurosis and the posterior fibres of the aponeurosis of the transverse muscle of the abdomen,
5. Aponeurosis of the sacro-spinalis muscle,
6. 6. Origin of the sacro-spinalis, common mass of the sacro-lumbalis, and longissimus dorsi muscles.
7. 7. 7. Sections of the transverse processes of the vertebræ.
8. 8. 8. Intervertebral ligaments.
9. Bundles of lumbar and sacral nerves.
10. 10. 10. Apertures for the passage of the spinal nerves.
11. 11. 11. Sections of the bodies of the vertebræ and sacrum.
12. Cellular tissue which unites the rectum to the anterior aspect of the sacrum, and to the coccyx.
13. Termination of the aorta.
14. Termination of the inferior vena cava.
15. Left common iliac artery.
16. Left common iliac vein.

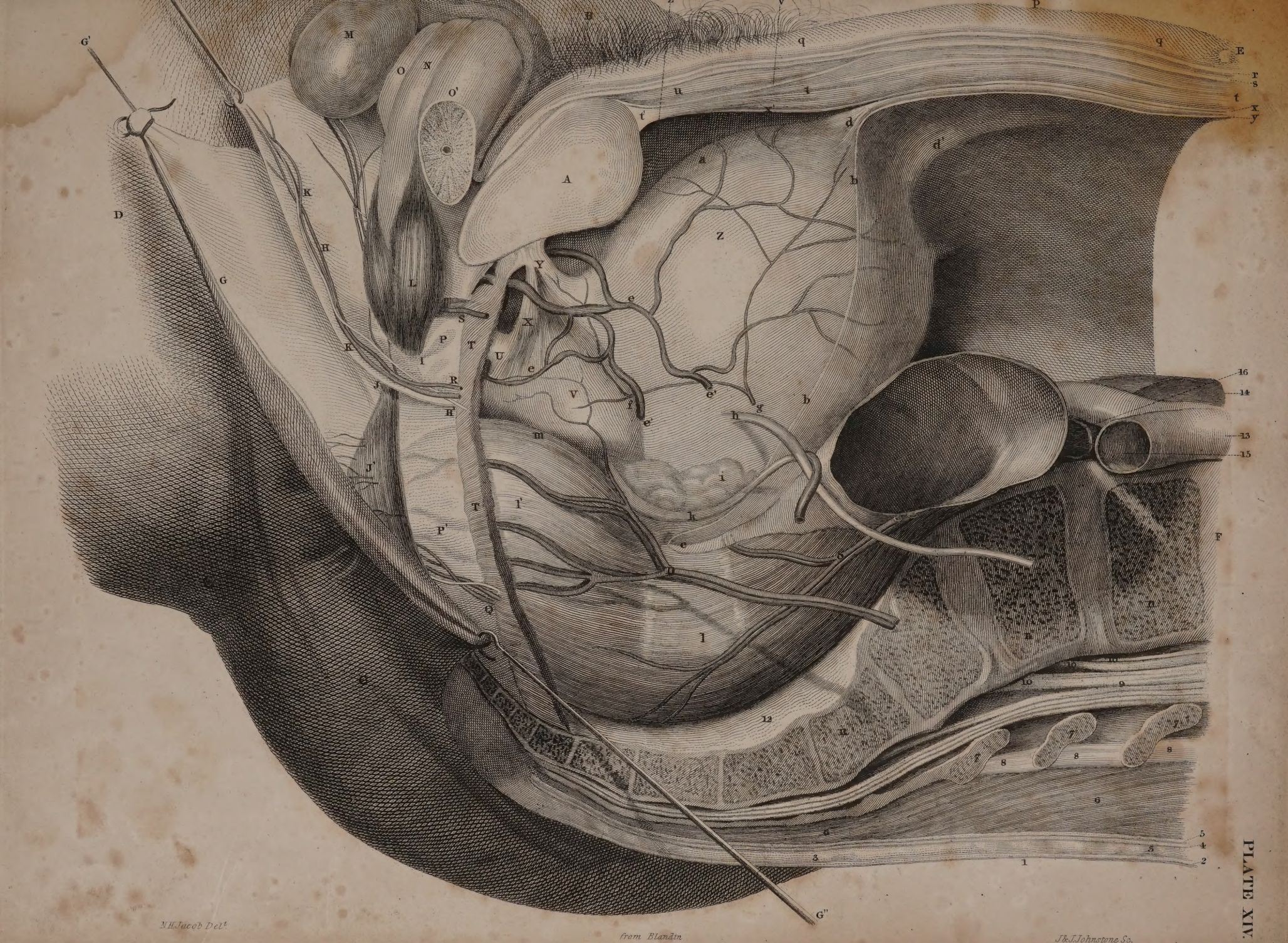

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PLATE XIV.

PLATE XV.

PLATE FIFTEENTH.

GENITO-URINARY ORGANS IN THE FEMALE.

A. A. The thighs.
B. B. Buttocks.
C. C. Inferior portion of the anterior abdominal parietes.
D. Umbilicus.
E. Anterior commissure of the vulva.
F. Anus.
G. G. External labia drawn outwards.
H. Clitoris drawn forwards and upwards, and on which we perceive its artery and nerve.
I. I. Rami of the pubis, on which we distinguish the roots of the cavernous bodies of the clitoris and erector muscles.
J. Meatus urinarius, of which the prominence, at its lower part, is serviceable for guiding the introduction of the catheter.
J'. Vagina.
K. Vestibule.
L. L. Spincter muscle of the vulva.
L'. L'. The two anterior bundles of the sphincter muscle attached to the roots of the clitoris.
L''. Posterior extremity of the sphincter muscle, separated from the sphincter of the anus by the origin of the inferior perineal aponeurosis.
L'''. Fibres of the sphincter of the vulva, which embrace the meatus urinarius in the form of a sphincter.
M. Anterior extremity of the sphincter of the anus.
N. Cut edge of the inferior perineal aponeurosis, and situation where it furnishes points of insertion to the sphincter muscles of the vulva and anus.
O. O. Anterior part of a depression placed on the side of the anus, and filled with fat.
P. P. Superficial or vulvar branch of the internal pudic artery and nerve, which sends branches towards the anus, and vagina, and principally to the external labia.
Q. Right side of the perineum, on which we have left the lesser aponeurosis, of which we distinguish the transverse fibres.
R. Deep branch of the internal pudic vessels and nerve of the right side, seen only through the middle perineal aponeurosis.
R'. The same branch on the left side lying exposed, the aponeurosis having been entirely removed.
S. Transverse artery of the perineum.
S'. Arterial arch, placed at the root of the clitoris, which is sometimes cut in the median operation for lithotomy, recommended by M. Dubois.

PLATE SIXTEENTH.

VIEW OF THE HAM OR POPLITEAL SPACE.

A. Inferior portion of the thigh.
B. Superior portion of the leg.
C. Inner condyle of the femur.
D. D. D. D. The skin in the neighbourhood of the popliteal space.
E. E. Subcutaneous cellular tissue.
F. Internal saphena vein.
F'. Internal saphena nerve.
F''. Place where the internal saphena nerve becomes superficial, on leaving the sheath of the sartorius muscle.
G. G. Portion of the fascia of the leg.
G'. G'. Fibrous expansion detached from the tendons of the biceps and semi-tendinous muscles.
H. Biceps muscle.
I. Semi-tendinous muscle.
J. Semi-membranous muscle.
K. Rectus muscle.
L. Sartorius muscle.
M. M. Hooks applied to the gastrocnemii muscles.
N. Plantaris muscle.
O. End of the sciatic nerve leaving the sheath at the back of the thigh.
O'. External popliteal nerve.
O''. Internal popliteal nerve.
P. External branch of the external saphena nerve.
P'. Cutaneous branch, which detaches itself from the preceding nerve.
Q. Q. Twin branches of the internal popliteal nerve.
R. Internal branch of the external saphena nerve.
S. End of the posterior cutaneous nerve of the thigh, accompanying the popliteal portion of the external saphena vein, and separated into two branches, which anastomose with the external saphena nerve or its branches.
T. External saphena vein concealed under the aponeurosis.
T'. Hook applied to the external saphena vein, to draw it outwards.
T''. Three terminating branches of the external saphena vein, one of which passes behind the thigh, and forms the origin of the deep crural vein; another, more or less developed, joins with the popliteal vein; the third, less constant than the others, becomes subcutaneous, and proceeds on the inner side of the thigh to the internal saphena vein.
U. Popliteal vein.
U'. Popliteal artery.
V. Place where the artery is found, a little on the outer side of the internal popliteal branch of the sciatic nerve.
X. X. External and internal superior articular vessels.
X'. X'. External and internal inferior articular vessels.
Y. Y. Vessels and nerves of the muscles of the calf of the leg.
Z. Z. Z. Popliteal lymphatic ganglia.
a. a. a. Lymphatic vessels which follow the tract of the external saphena vein, and terminate in the popliteal ganglia.
b. b. b. Other lymphatic vessels which follow the internal saphena vein to the ganglia of the fold of the groin.
c. c. Deep lymphatic vessels of the leg entering the popliteal space.
d. Large lymphatic vessels ascending the tract of the femoral vessels.

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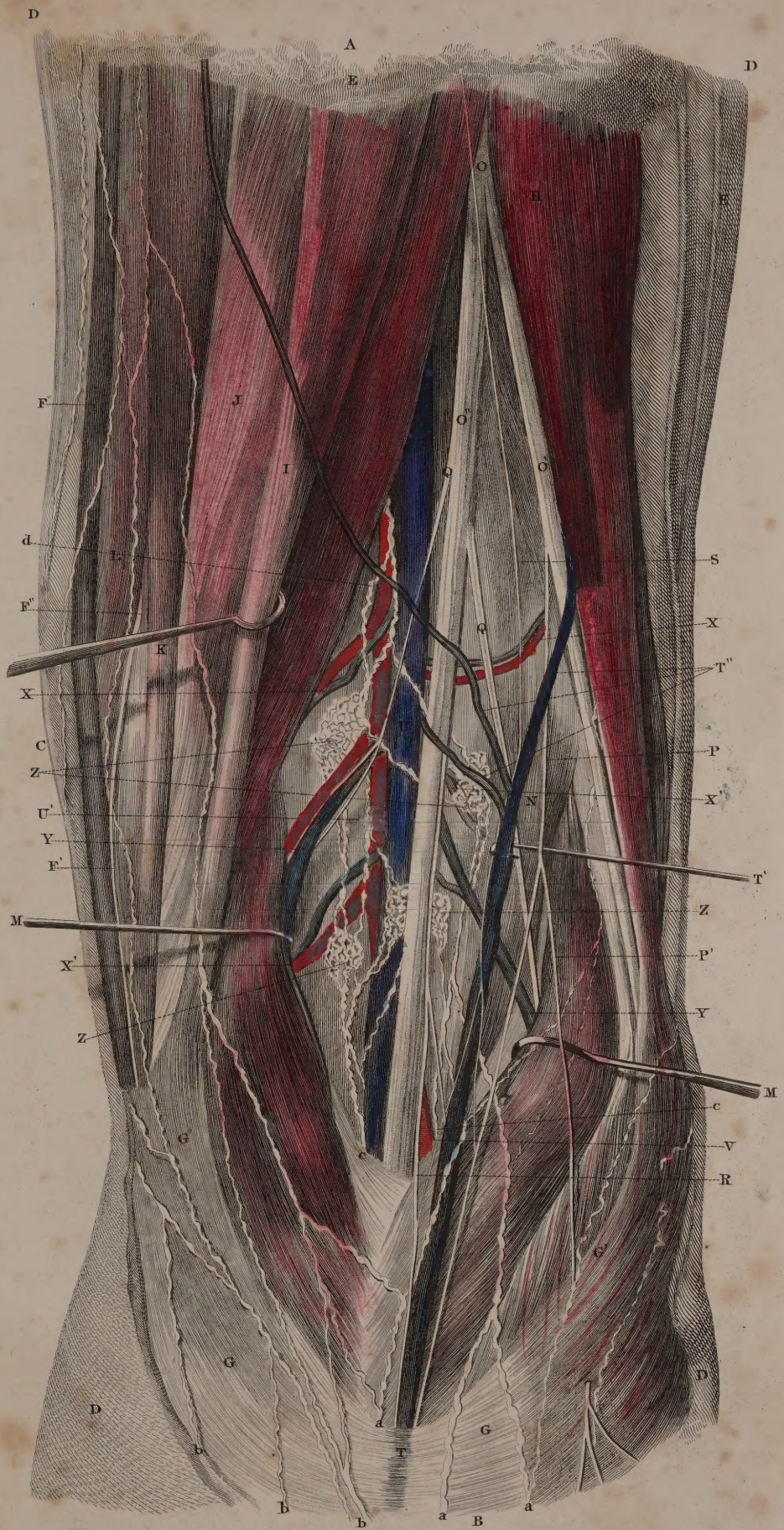

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